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Testimony to the House Energy and Technology Committee
In Support of House Bill 5334
By Granger

Keith L. Granger, Chief Executive Officer

Our small rubbish hauling company, started 43 years ago by my grandfather, father and uncle, has grown into a comprehensive environmental management services firm responsible for the recovery of resources through recycling, composting, and landfill gas conversion to energy.

We are a third generation, family-owned, Lansing-based business. Our 200 associates provide waste hauling services and operate two landfills, a recycling center, and a compost facility.

In 1985, Granger was the first in Michigan to develop and implement a commercial scale landfill gas project. Since that time, we have built seven landfill gas utilization projects in Michigan, generating nearly 30 megawatts of renewable energy, and developed seven additional landfill gas projects in five other states.

These projects capture the gas that is created by decomposition of trash in the landfill. Landfill gas contains about 50 percent methane. Methane has half the Btu value of natural gas and is a viable renewable energy source.

Our energy division is growing and our customers are demanding more renewable energy to meet their renewable portfolio standard requirements. We know that the quality and quantity of landfill gas is directly related to the organic content of the waste stream. We know we can effectively harvest this gas and use it to make a renewable energy product.

This is why we seek approval of House Bill 5334 to increase renewable energy production from landfill gas in Michigan. We can accomplish this with an exemption to the existing landfill yard waste ban by approving House Bill 5334.

Tonia Olson, Director of Governmental and Community Relations

In 2007, Granger commissioned the report *Examining Increased Renewable Energy Production from Landfill Gas in Michigan*. The report was prepared by Public Sector Consultants.

In the report we asked if an exemption to the existing yard waste ban would increase renewable energy production from landfill gas in Michigan. Yard waste is defined as leaves, grass, and tree trimmings. It has the highest organic content of the non-landfilled waste stream. The findings of this study show that an exemption for yard waste **will** yield **more** energy production.

The report identified 50 municipal solid waste landfills in Michigan. Twenty have operational landfill gas projects, and at least 12 more could be developed. These active landfill gas projects supply more than 80 megawatts of energy. If all projects were fully developed and an exemption for yard waste allowed, the energy production from landfills could increase to about 300 megawatts, which would energize 200,000 average sized homes (approximately the size of a medium-sized coal plant).

The report found 23 states that prohibit yard waste disposal in landfills. Composting businesses, just as before the ban in Michigan, are viable in states without yard clipping bans. For example: California has no ban, but nearly 300 compost facilities; Florida has no ban, but more than 230 compost facilities; Indiana has no ban and at least 125 compost facilities; Oregon has no ban and more than 300 compost facilities.

House Bill 5334 requests an exemption, NOT repeal, of the existing yard waste ban. The intent is to provide meaningful energy results. Therefore, the language provides new and very specific criteria for the exemption to apply.

- There must be an operable gas collection system in place before yard waste can be accepted.
- The language provides a move from no reported collection efficiency to a reasonable stretch of 70 percent.
- The 70 percent collected must be productively used as power for electricity, direct use or as a substitute for conventional fuels.

In addition to meeting all regulatory standards for landfill design and operation, the bill addresses the new and specific criteria required to gain the status of a landfill energy production facility—a status that will be designated in the facility operating license (page 5, line 1).

1. On page 4, line 12, there is a measure of accountability for recovery and use on an annual basis. "A landfill energy production facility is required to report the amount of landfill gas recovered during the year and how the gas was managed."
2. On page 5, line 4, the requirement for a collection system to be in place before yard clippings are accepted is addressed. "The landfill has a landfill gas collection system that is capable of recovering landfill gas from landfill cells receiving yard clippings and installation of which is documented in the landfill's operating record."
3. On page 5, line 8, a performance standard is established. "At least every other year, the facility shall recover **and** beneficially utilize not less than 70% of the annual gas production from the landfill as a source of energy ..." That is, recovery and use of 70 percent. This is a practical measure to accommodate possible fluctuations in the landfill recovery system, which can be influenced by such factors as weather, waste volumes or malfunction. Impacting the license status of a facility on a year to year basis would present operational challenges for communities and other customers.

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4. On page 5, line 18, appropriate use of flaring is explained. Flaring is external burning of the landfill gas as an emission management tool. "Flaring shall not be utilized for more than a total of two continuous years. However, a request to extend flaring shall be approved by the department if the landfill owner or operator submits a schedule for the use of landfill gas from the generation of electricity, a direct fuel use, or any other use as a substitute for conventional fuels." Flaring is necessary for testing, maintenance, malfunction, or unplanned interruption. The time frame for flaring for these reasons often is beyond the control of the operator. Therefore, allowing this management tool to be used for up to two years is, again, a practical solution.

There have been important advances in the landfill industry since the yard waste ban was adopted in 1995. These facilities are highly engineered and designed to serve the purpose of a safe repository for trash. While this is the intended purpose, we know these facilities can be a greater resource. Today, forward thinking companies like ours capture the methane to produce energy by installing collection piping as each portion of the landfill is built–before trash is put in place. The installation of the infrastructure for gas capture continues as the layers of trash are added.

Due to high moisture content the addition of yard waste would act as an easily manageable catalyst to decomposition. This improves overall gas production and stability of the waste pile. Landfill gas is considered base load power, available 24/7/365. Energy from landfill gas can continue to be harvested 20 to 30 years after the landfill closes.

The benefits of landfill gas projects are real. According to the Environmental Protection Agency (EPA), for every three megawatts generated, enough energy is produced to power 1,900 average-sized homes. The anticipated 300 megawatts to be gained from this change would mean power for nearly 200,000 homes.

I might also mention that landfill gas projects create more than renewable energy; they create family sustaining green jobs. From initial development through ongoing management and maintenance engineers, skilled trades and system operators are employed.

House Bill 5334 is consistent with State and Federal Policy:

- The State Solid Waste Policy adopted in May of 2007 took the bold step of recognizing solid waste as a resource. Further, it specifically identifies energy recovery as a beneficial waste utilization technology. In this case, we're turning leaves and grass into electricity.

- The EPA runs the Landfill Methane Outreach Program (LMOP). The mission of this office is to reduce methane emissions by lowering barriers and promoting the development of cost-effective and environmentally beneficial landfill gas projects. LMOP promotes landfill gas-to-energy projects to reduce local air pollution and create jobs, revenues, and cost savings. The EPA indicates that these projects destroy methane and other organic compounds in landfill gas and provide the benefit of offsetting use of nonrenewable resources, thus reducing air pollution emissions.

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Yard waste for renewable energy production is seen as a high end use by the public. In March of 2008, we commissioned Lansing-based Denno Noor, LLC to conduct a brief survey. When those surveyed were asked if they would support allowing yard waste in landfills if it is used to increase the production of renewable energy, 86 percent responded favorably. When asked which resource they place a higher value on, compost or green energy, 60 percent placed a higher value on green energy.

Understandably, this requested policy change has resulted in a number of questions about various impacts. I would like to address the chief concerns.

1. *Will increased yard waste volume impact available landfill capacity?*
   No, it will not significantly limit overall landfill capacity. It is estimated that as a result of the decomposition process, yard waste loses half of its weight and 50 to 70 percent of its volume. Our engineers conducted a case study of our Wood Street Landfill facility to measure the impact on our remaining space. We found that our 60 plus years of capacity could be reduced by about four years. On the other hand, the landfill gas production would increase and be available for more than a century.

2. *Will emissions increase from the addition of yard waste?*
   No. A collection efficiency of 70 percent does not necessarily mean 30 percent is emitted. An increase in collection efficiency as a condition for allowing yard waste disposal in a landfill will offset any increase in emissions. As collection efficiency increases, the proportion of gas collected increases and the proportion of gas emitted decreases. Other advanced management practices and oxidation of methane in soils also contribute to reduced emissions.

3. *Is this a significant source of renewable power?*
   Yes. And our partnership with the Lansing Board of Water and Light (LBWL) is a demonstration of the local significance of renewable power from landfill gas projects. Our two Lansing area landfills transmit electricity to LBWL. In May, this electricity amounted to slightly more than 5 percent of their retail sales. To the LBWL this is significant.

The development and growth of landfill gas projects was born from great ingenuity, from the recognition that landfill gas can be harvested for an energy purpose, not wasted. This legislation seeks to spur more such inventiveness. The language to allow for a landfill energy production facility is streamlined to promote development. It is responsible to environmental resource management by requiring all current landfill regulatory requirements to be met and provides accountability to the department for the expected result.

House Bill 5334 seeks to allow an exemption to the law that bans disposal of yard clippings in landfills that meet new and very specific criteria to achieve an energy production benefit. This would not require a community to landfill yard waste. It would not require a landfill to seek the exemption. Communities can elect to utilize yard waste for composting or mix yard waste with trash to create energy. Composting can and should exist; other technologies that can effectively and efficiently utilize yard clippings should exist, too.

In our example, we are a landfill owner, gas developer and a compost facility operator. We recognize that the many communities we serve have different needs. We know that some customers believe in composting. We would like to provide this benefit on a smaller scale in a market-balanced environment with demand for the finished compost product. The highest product demand in our area is for renewable power for the LBWL. We know we can make renewable energy from yard waste and we would like to provide this benefit to our community.

As with any environmental issue, there is a tendency for opinion based on emotion to influence the discussion. This evaluation, based on technical findings, supports moving forward with the idea that we can effectively recycle yard waste into energy. There is consensus that landfills should capture methane to produce energy when feasible and safe. There is also consensus that state-of-the-art technology can be used to capture the energy potential from yard waste. This is what House Bill 5334 is proposing.

Approval of this bill recognizes the value yard waste can provide to responsibly meet our renewable portfolio requirements. The demand is for the light to turn on when we flip the switch using power that is not fossil-fuel based or from foreign sources. Approval, without question, will result in more renewable energy, decreased emissions, and a choice for management of yard waste as dirt or as power.

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